

# **OPERATIONS MANUAL**



# **TECHNICAL ASSISTANCE AND PARTS**

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Manufactured by Stryker Bertec Medical Inc

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# 1. INTRODUCTION

This manual is designed to assist you with the operation of the Model FL20E \_\_\_\_BED\*. Read it thoroughly before operating the bed. Hospital staff should be able to refer to this manual at all time when using the bed.

This Operations Manual is an integral part of the bed and should be included if the bed is sold or transferred.

1.1 BED SPECIFICATIONS *		
Safe Working Load	579 lb (263 kg)	
Weigh System Capacity	Patients weighing up to 500 lb (227 kg)	
Weigh System Accuracy	± 2 % of patient weight from 100 lb (45.3 kg) to 500 lb (227 kg) ± 2 lb of patient weight under 100 lb (45.3 kg)	
Overall Length/Width	92 7/8" x 42 9/16" (235 cm x 108.1 cm) - siderails up 92 7/8" x 38 3/4" (235 cm x 98.4 cm) - siderails down	
Weight w/Boards	417 lb (189 kg)	
Patient Sleep Surface	35 x 80" (89 x 203 cm) extendable to 82" (208 cm) & 84" (213 cm)	
Recommended Mattress Size	35 x 80" (89 x 203 cm); 35 x 82" (89 x 208 cm); 35 x 84" (89 x 213 cm); 6.25" (15.9 cm) <b>max. thickness</b>	
Min/Max Mattress Support Height:	14.5 to 28.9" (36.8 to 73.4 cm)	
Fowler Angle w/CPR Mechanism Fowler Angle w/o CPR Mechanism	0 to 60° 0 to 65°	
Knee Gatch Angle w/o Auto Contour Knee Gatch Angle w/Auto Contour	0 to 32° 0 to 24°	
Trendelenburg/Reverse Trendelenburg	+14 to -14°	
Environmental Conditions  - Transport and storage  - Ambient Temperature  - Relative humidity  - Atmospheric Pressure  - Operating **  - Ambient Temperature  - Relative humidity  - Atmospheric Pressure	-40 to 70°C (-40 to 158°F) 10 to 100% 500 to 1060 hPa  18.3 to 26.7°C (65 to 80°F) 20 to 80% without <b>condensation</b> 700 to 1060 hPa	
Electrical Requirements - all electrical requirements meet CSA C22.2 No. 601.1-M90, UL 2601 and IEC 60601-1, 60601-2-38 specifications.	100V~, 50-60Hz, 7.5A -Two 250V, 10A Slow Blow Fuses 120V~, 50-60Hz, 4.0A -Two 250V, 10A Slow Blow Fuses 120 V~, 50-60Hz, 9.8A w/Auxiliary Outlet - Two 250V, 10A Slow Blow Fuses 200V~, 50-60Hz, 3.2A -Two 250V, 6.3A Slow Blow Fuses 220V~, 50-60Hz, 2.9A -Two 250V, 6.3A Slow Blow Fuses 240V~, 50-60Hz, 2.7A -Two 250V, 6.3A Slow Blow Fuses	

<sup>\*</sup> Stryker Bertec pays special attention to product improvement and reserves the right to change specifications without notice.

<sup>\*\*</sup>Operating environment recommended to ensure the scale precision.

# 1.2 TECHNICAL SUPPORT

For questions regarding this product, contact the following Technical Service department or your local representative:

### In Canada:

Stryker Bertec Medical Inc 1 800 428-5025 E-mail (Canada only):<u>service@bertec.strykercorp.com</u> 70, 5<sup>th</sup> Avenue, P.O. Box 128 L'Islet (Québec), G0R 2C0, Canada

### In the United States:

Stryker Medical 1 800 327-0770 6300, South Sprinkle Road Kalamazoo, MI 49001-9799 USA

# 1.3 WARNING / CAUTION / NOTE DEFINITIONS

The words WARNING, CAUTION and NOTE carry special meanings and should be carefully reviewed.



# **WARNING**

The personal safety of the patient or user may be involved. Disregarding this information could result in injury to the patient or user.



### CAUTION

These instructions point out special procedures or precautions that must be followed to avoid damaging the equipment.

### NOTE

Notes provide special information to make maintenance easier or important instructions clearer.

# 1.4 SAFETY TIPS AND GUIDELINES

Before operating the BED+, it is important to read and understand all information in this manual. Carefully read and strictly follow the safety guidelines listed below.

It is important that all users have been trained and educated on the inherent hazards associated with the usage of electric beds.



### **WARNING**

- The GRED+ is not intended for pediatric use.
- The mattress thickness should not exceed 6.25" (15.9 cm).
- This bed is equipped with a hospital grade plug for protection against shock hazard. It must be plugged directly into a properly grounded receptacle. Grounding reliability can be achieved only when a hospital grade receptacle is used.
- Serious injury can result if caution is not used when operating the bed. Operate the bed only
  when all people and equipment are clear of the electrical and mechanical systems.
- Always apply the brakes when a patient is on the bed (except during transport). Serious injury
  could result if the bed moves while a patient is getting on or off the bed. After the brake pedal is
  engaged, push on the bed to ensure the brakes are securely locked.
- To help reduce the number and severity of falls by patients, always leave the bed in the lowest position when the patient is unattended.
- Leave the siderails fully up and locked when the patient is unattended. When raising the siderails, be sure that you hear the click that signals the up and locked condition. Pull firmly on the siderail to ensure it is locked into position.
- Keep siderails in the fully raised position and the sleep surface horizontal in its lowest position when the patient is sleeping unless the patient's medical conditions dictates otherwise.
- When the sleep surface sections are articulated, ensure that all patient's extremities are within the raised siderails to avoid patient injury.

- Siderails, with or without their padded covers or nets, are not intended to serve as restraint
  devices to keep patient from exiting the bed. Siderails are designed to keep a patient from
  inadvertently rolling off the bed. It is the responsibility of the attending medical personnel to
  determine the degree of restraint necessary to ensure a patient will remain safely in bed. Failure
  to utilize the siderails properly could result in serious patient injury.
- To reduce risk of injury, ensure the sleep surface is horizontal and in the lowest position with the siderails fully raised and locked when moving the bed with a patient in it.
- To avoid injury to the patient and/or user, do not attempt to move the bed laterally with the steer pedal engaged. The fifth steer wheel cannot swivel.
- When a patient's condition requires greater safety measures for his/her security, use the lockout switches in the foot board control panel to inhibit the siderail functions or remove any optional pendant control and install protective pads on the siderails.
- The instant CPR release is for emergency use only. When activating the CPR release handle, all people and equipment must be removed from the area below and around the head, thigh and foot sections of the bed or serious personal injury or equipment damage could occur.
- Possible fire hazard exists when this bed is used with oxygen administering equipment other than nasal, mask type or half bed-length tent type. It is recommended to unplug the bed power cord from the wall when oxygen-administering equipment is used. When using a half bed-length tent type, ensure the siderails are outside the oxygen tent and oxygen tent should not extend below the mattress support level.
- The Weigh system is intended to assist in the monitoring of the patient's weight variation. Under no circumstances should its reading be used as sole reference for medical treatment.
- The Bed Exit system is intended only to aid in the detection of a patient exiting the bed. It is not
  intended to replace patient monitoring protocol. The Bed Exit system signals when a patient is
  about to exit the bed. Adding or removing objects from the bed after having armed the Bed Exit
  system may cause a reduction in the sensitivity of the Bed Exit system, resulting in erroneous
  readings of the patient's movements in the bed.
- The Bed Exit system is not designed to be used with patients weighing less than 50 lb (23 kg).
- When large fluid spills occur in the area of the circuit board, cables and motors, immediately
  unplug the bed power cord from the wall outlet. Remove the patient from the bed and clean up
  the fluid. Have maintenance completely check the bed. Fluids can have an adverse effect on
  operational capabilities of any electrical product. **DO NOT** put the bed back into service until it is
  completely dried and has been thoroughly tested for safe operation.
- Do not steam clean, hose off or ultrasonically clean the bed. Do not immerse any part of the bed. The internal electrical parts may be damaged by exposure to water. Hand wash regularly all surfaces of the bed with warm water and a mild detergent. Wipe cleaned surfaces dry to avoid build up of cleaning substance. Inspect the mattress after each use. Discontinue use if any cracks or rips are found in the mattress cover, which may allow fluid to enter the mattress. Failure to properly clean the mattress, or dispose of it if defective, may increase the risk of exposure to pathogenic substances and may bring about diseases to the patient and user.
- Preventive maintenance should be performed at least once a year to ensure all bed features are functioning properly. Ensure that any bed malfunction is promptly reported to service personnel for immediate attention.
- Always unplug the bed power cord from the wall outlet when servicing or cleaning the bed. When
  working under the bed with the bed in the high position, always place blocks under the mattress
  support frame and apply the brakes to prevent injury in case the Bed Down switch is accidentally
  pressed.
- To avoid damage to the siderail mechanisms, do not move the bed using the raised siderails. Use the push/pull handles integrated to the boards to move the bed.
- Before using the optional manual crank during a power failure, always unplug the power cord. An
  unexpected return of power could rotate the handle and cause injury.
- When servicing use only identical replacement parts provided by Stryker Bertec.

### NOTE

Throughout this operations manual, the words "right" and "left" refer to the right and left sides of a patient lying face up on the bed.

# 1.5 WARRANTY

# LIMITED WARRANTY

All Stryker Bertec products are guaranteed against material or manufacturing defects, improper operation of mechanisms, and premature wear of bed components under normal use conditions.

For questions regarding warranty, please contact Stryker Bertec Technical Service department (see section 1.2) or your local representative.

# TO OBTAIN SERVICE AND/OR PARTS

For an on-site diagnosis of a malfunction a Field Service Representatives or to order replacement parts, simply contact our Service department (see section 1.2) or your local representative. For the part ordering procedure, refer to section 1.5 of the bed maintenance manual, "To Obtain Service and/or Parts".

# RETURN AUTHORIZATION

Merchandise cannot be returned without approval from the Stryker Bertec Technical Service department. An authorization number will be provided, which must be clearly printed on the returned merchandise. Stryker Bertec reserves the right to charge shipping and restocking fees on returned items.

### DAMAGED MERCHANDISE

Claims for damaged merchandise must be made with the carrier within fifteen (15) days of receipt of merchandise. DO NOT ACCEPT DAMAGED SHIPMENTS UNLESS SUCH DAMAGE IS NOTED ON THE DELIVERY RECEIPT AT THE TIME OF RECEIPT. Upon prompt notification, Stryker Bertec will file a freight claim with the appropriate carrier for damages incurred. Claims will be limited in amount to the actual replacement cost. In the event that this information is not received by Stryker Bertec within the fifteen (15) day period following the delivery of the merchandise, or the damage was not noted on the delivery notice at the time of receipt, the customer will be responsible for payment of the original invoice in full.

# 1.6 SYMBOLS



Warning, consult accompanying documents

Claims for any short shipment must be made within 5 days of invoice.



Fuse rating for bed with the 100V~ and 120V~ electric systems



Fuse rating for beds with 200V~, 220V~ and 240V~ electric systems



Protective earth (ground)



**Alternating Current** 



Type B Equipment

IPX4

Protection from liquid splash

# 1.7 SET-UP PROCEDURE

# **CHECKLIST**

It is important to ensure that the bed is working properly before it is put into service. The following list will help ensure that each part of the bed is checked.

\_\_\_\_ Install the foot and head boards on the bed. Insert the foot board carefully so that the board and the casing connectors fit in smoothly.

### **NOTE**

Boards can be fixed permanently by using two 1/4" flat washers/1/4" spring washers/1/4-20 x 1 3/4" hexagon screws for the head board and two 1/4" flat washers/1/4" spring washers/1/4-20 x 2 1/4" hexagon screws for the foot board. Simply insert a screw and the two different washers in factory installed nuts (refer to drawing 20-0130L, attached to the parts list L20-001, for the illustration of the nut (part VE20A1N -ref. no. 17)) accessible through holes located on the inner sides of the foot end and head end casings.

Plug the power cord to the bed connector at the head end of the bed and into a properly grounded hospital grade wall outlet. Turn on the power switch loacted on the power connecter.



# **WARNING**

The bed is equipped with a hospital grade plug for protection against shock hazard. It must be plugged directly into a properly grounded receptacle. Grounding reliability can be achieved only when a hospital grade receptacle is used.

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Depress the red "TOTAL BRAKE" side of the pedal at both sides of the bed fully down to set the brakes (see page 12). Push on the bed to ensure it is immobilized. Toggle the pedal to the neutral position and ensure the brakes are released.
Depress the green "AXIAL STEER" side of the pedal at both sides of the bed fully down to put the bed in the steer mode (see page 12). Ensure the 5th steer wheel is properly engaged. Toggle the pedal to the neutral position and ensure the 5th wheel disengages.
Ensure the siderails raise, lock in the up position and lower smoothly (see page 15).
Run through each control of the foot board control panel (see page 17).
Verify the optional Weigh and Bed Exit systems for proper operation (see page 18, "Operating (Zeroing) the Scale" and page 20 or 21, "To <b>activate</b> the Bed Exit").
Run through each function on both head end siderails (see page 16).
Raise the bed to full up position and activate the Trendelenburg function (see page 17). Ensure the head end lowers to the full down position.
Raise the bed to the full up position and activate the reverse Trendelenburg function (see page 17). Ensure the foot end lowers to the full down position.
Verify the optional CPR hold-to-run release mechanism. Raise the Fowler to full up. Using the CPR release handle (see page 14), lower the Fowler gradually to flat position by pulling, holding and releasing the handle several times. Ensure the Knee Gatch (if raised) also start flattening when the Fowler is completely down. Verify that the Fowler actuator resets itself when the Fowler is completely lowered. Note that during the Fowler motor reset period, the bed functions are not available.
Verify the following optional equipments for proper operation: 120V auxiliary outlet, night light, two or three function pendant control, emergency crank operation, etc.

If any problems are found during bed set-up, contact our Technical Service department (see section 1.2).

# 1.8 CLEANING AND PREVENTATIVE MAINTENANCE

# **BED CLEANING AND MATTRESS CARE**



# **WARNING**

Always unplug the bed power cord from the wall outlet when cleaning or servicing the bed.



# **CAUTION**

Do not use harsh cleaners, solvents or detergents. Do not steam clean, hose off or ultrasonically clean the bed. Do not immerse any part of the bed. The bed electrical parts may be damaged by exposure to water.

Germicidal disinfectant, used as directed, and/or Chlorine Bleach products are not considered mild detergents. These products are corrosive in nature and may cause damage to your bed if used improperly. If these types of products are used, ensure the beds are rinsed with clean water and thoroughly dried following cleaning. Failure to properly rinse and dry the beds will leave a corrosive residue on the surface of the bed, possibly causing premature corrosion of critical components. Failure to follow the above directions when using these types of cleaners may void this product warranty.

# **Bed Cleaning**

Hand wash all surfaces of the bed with a soft cloth moistened with a solution of lukewarm water and a mild detergent.

Wipe the bed clean and dry thoroughly to avoid build up of cleaning solution.

# **NOTE**

Do not use cleaning solutions containing a degreaser near the siderail pivots (see figure 2.2B on page 11 of the Maintenance Manual) to avoid deteriorating the grease used to ensure a smooth movement of the siderails.

# **Mattress Care**



# WARNING

Inspect the mattress after each use. Discontinue use if any cracks or rips are found in the mattress cover which may allow fluid to enter the mattress. Failure to properly clean the mattress, or dispose of it if defective, may increase the risk of exposure to pathogenic substances and may bring about diseases to the patient and user.

# Inspection

Implement local policies to address regular care, maintenance, and cleaning of mattresses and covers. The cover cleaning procedure can be found below and on the bed label.

Inspect mattress cover surface (also zip fasteners and cover inner surface if mattresses have zip fasteners) regularly for signs of damage. If the mattress cover is heavily stained or soiled, or torn, remove the mattress from service.

# Cleaning

Stains: Wash with lukewarm water using a mild detergent. Rinse with water and let dry. For tough stains use bleach diluted with ten parts of water.

# PREVENTATIVE MAINTENANCE

# **Annual Checklist**

	_ All fasteners secure.
	Inspect for excessive wear the oil-impregnated bronze shoulder spacers found at the bed hinge points. Replace as needed. <b>Do not</b> lubricate these spacers.
	Engage the "TOTAL BRAKE" pedal at both sides of the bed and ensure the brakes are
	applied. Toggle the pedal to neutral and ensure the brakes are released.
	Engage the "Axial Steer" pedal at both side of the bed and ensure the 5th steer wheel engages properly. Toggle the pedal to neutral and ensure the 5th wheel disengages.
	_ Siderails move, latch and stow properly (see page 15).
	<ul> <li>All functions on the foot board working properly, including LED's (see page 17).</li> <li>Calibrate the optional scale system (see section 4.6 "Scale System Calibration" of the bed Maintenance manual).</li> </ul>
	_ All siderail functions working properly (see page 16). Verify the nurse call function, alarm sounds in the nurse station?
	Optional CPR hold-to-run release handles working properly (see page 14). Fowler and Knee Gatch (if raised) flatten. Fowler control motor resets itself automatically as soon as the fowler is completely lowered.
	Verify the Fowler, Knee Gatch and Hi-lo movements to ensure that the motion interrupt switch integrated to each of the four actuators is operating properly.
	Auxiliary outlet (option available only with 120V electric system beds) working properly (see page 14).
	Optional night light working properly.
	<ul> <li>Foot prop rod working properly with the Knee Gatch or Contour positioning activated.</li> <li>No cracks or splits in the boards and siderails.</li> </ul>
	Head end bumpers tightly secured to frame and working properly.
	No rips or cracks in mattress cover.
	Power cord not frayed.
	_ No cables worn or pinched.
	_ All electrical connections tight.
	_ All grounds secure to the frame.
	_ All casters roll properly. Check caster for cuts, wear, etc.
	_ Ground chain intact and in place.
	_ Inspect and lubricate, if needed, the bed lubrication points described in section 2.2 of the GOBED+ maintenance manual.
<u>^</u>	_ Measure current leakage and grounding continuity of the bed and the optional auxiliary outlet (check with our Technical Service department for the acceptable values).

### NOTE

Preventive maintenance may need to be performed more frequently based on the usage level of the bed.

# 1.9 BED POSITION PICTOGRAMS

The following pictograms illustrate the BED+ basic positions.

Not illustrated here is the Cardiac Chair position that is obtained by combining the reverse Trendelenburg and the Contour positions.

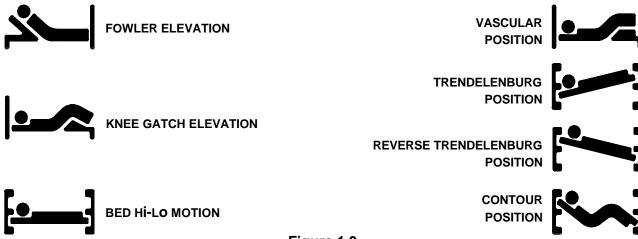


Figure 1.9

# 1.10 BED ILLUSTRATION

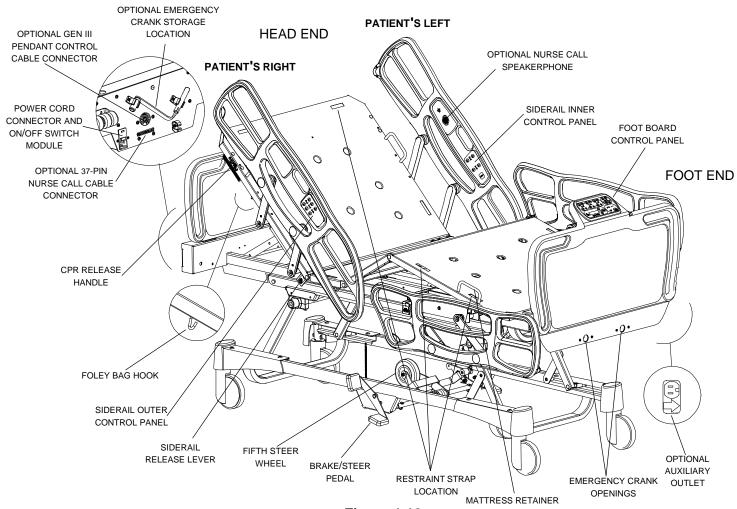


Figure 1.10

# 2. OPERATION GUIDE

# 2.1 SWITCHING ON POWER

The bed is equipped with a main power switch located at the head end of the bed where the power cord connects to the bed. Turn it on to activate the bed functions. When the bed power switch is turned off or in the event of a power failure, the settings of the lockout controls and the optional Weigh and/or Bed Exit calibration data are preserved.

# 2.2 APPLYING THE BRAKES

The bed is equipped with a central locking system activated by a pedal (see page 11, "Bed Illustration") located at the midpoint of the bed on both sides.



### **WARNING**

Always apply the brakes when a patient is on the bed (except during transport) or when entering/exiting the bed. Serious injury could result if the bed moves while a patient is getting on or off the bed. After the brake pedal is engaged, push on the bed to ensure the brakes are securely locked.

# **Brake Pedal Operation**

To **engage** the wheel brakes, fully depress the red "TOTAL BRAKE" side of the brake/steer pedal at either side of the bed.

To **disengage** the wheel brakes, toggle the pedal to the neutral position.

# 2.3 MOVING THE BED

The bed is equipped with a fifth steer wheel activated by a pedal (see page 11, "Bed Illustration") located at midpoint of the bed on both sides.

The fifth steer wheel helps guiding the bed along a straight line and helps the bed pivot around corners.



# **WARNING**

To reduce risk of injury, ensure the sleep surface is horizontal and in the lowest position with the siderails fully raised and locked when moving the bed with a patient in it.

To avoid injury to the patient and/or user, do not attempt to move the bed laterally with the steer pedal engaged. The fifth steer wheel cannot swivel.

To avoid damage to the siderail mechanisms, do not move the bed using the raised siderails. Use the push/pull handles integrated to the boards to move the bed.

# **Steer Pedal Operation**

To **engage** the steer mode, fully depress the green "AXIAL STEER" side of the brake/steer pedal at either side of the bed.

To **remove** the steer mode, toggle the pedal to the neutral position.

# 2.4 FOLEY BAG HOOK USAGE

Foley bag hooks (see page 11, "Bed Illustration") are found at three locations on both sides of the bed under the edges of the mattress support head, seat and foot sections.

### NOTE

The Foley bag hooks move when the Fowler is raised or lowered. Fowler motion must be locked out when using these hooks to avoid inadvertent movement of the hooks.

# 2.5 FOOT PROP ROD OPERATION

A foot prop rod, integrated to the foot section, engages automatically as the Knee Gatch is raised thus maintaining the foot section in a nearly horizontal position. The support arm enables the positioning of the sleep surface into the vascular position (see page 11, "Bed Positions").

Since the prop rod is automatically engaged, it must be disengaged manually whenever a simple Knee Gatch raise is required. To do so, perform the following steps:

- 1. Before raising the Knee Gatch, reach under the foot section, lift the prop rod and hold it while raising the Knee Gatch through the foot board control panel.
- 2. As the Knee Gatch raises, the rod will come to pass the support brackets. Release it then and continue to raise the Knee Gatch. The foot section will then simply follow the move of the Knee Gatch without being propped.

# 2.6 PATIENT RESTRAINT STRAP LOCATIONS

The bed has 12 locations on the mattress support for installing patient restraint straps. Ten of them are located on the mattress support edges directly across from each other and the remaining two are located on the top edge of the head section (see page 11, "Bed Illustration").



# WARNING

Improperly adjusted restraint straps can cause serious injury to a patient. It is the responsibility of the attending medical personnel to determine proper use of restraint straps and restraint strap locations.

# 2.7 EMERGENCY CPR RELEASE (OPTIONAL)



### **WARNING**

The CPR release is for emergency use only. When activating the CPR release, all people and equipment must be removed from the area below and around the head, thigh and foot sections of the bed or serious personal injury or equipment damage could occur.

When quick access to the patient is needed, and the Fowler is raised, squeeze one of the two release handles located under the upper right and left sides of the head section (see page 11, "Bed Illustration"). The Fowler and the knee section (if also raised) will automatically flatten. The Fowler control motor will reset itself automatically as soon as the Fowler will be completely lowered.

The handle can be released at any time to stop the Fowler from lowering. Note that the resetting of the control motor does not occur when the Fowler is not lowered completely.

### NOTE

During the short period of time the Fowler control motor is resetting, the bed functions are not available.

# 2.8 NIGHT LIGHT USAGE (OPTIONAL)

The bed may be equipped with an optional photoelectric night light to illuminate the floor area around the bed. The night light turns on as the room lights dim.

# 2.9 NURSE CALL USAGE (OPTIONAL)

The bed may be equipped with an optional nurse call function allowing the patient to communicate through speakerphones with the nurse station by simply pressing a nurse call red button integrated to both head end siderail inner control panels (see page 16).

The communication between the patient and the nurse station is established the moment a member of the nursing staff responds to the call signal.

Included with this option are two  $\emptyset$ 1/4" phono jacks located on both sides of the head end casing. The phono jacks enable the use of a nurse call cord which can be placed within reach of a patient who is not in bed.

### NOTE

The nurse call system will automatically send a call signal to the nurse station if the communication between the bed and the nurse station is interrupted following a power failure, the switching off of the bed or the disconnection of the nurse call communication cable.

# 2.10 AUXILIARY POWER OUTLET USAGE (OPTION AVAILABLE W/120V~ BED MODEL)



# **WARNING**

Use only hospital grade electric equipments with the auxiliary power outlet. The use of normal electric equipments may bring the current leakage to a level unacceptable for hospital equipment.

The North American version (120V~ electrical system) of the EDED\* may be equipped with an optional 120V~ auxiliary power outlet integrating a 5A breaker. Located on the left side at the foot end of the bed (see page 11, "Bed Illustration"), this feature provides nursing staff with a convenient power source for peripheral equipments.

### NOTE

Use only equipment with a current consumption of 5 amp or less.

# 2.11 POSITIONING SIDERAILS

The siderails have one lock position, in the upper position. They can be tucked away against the mattress support when not in use.

# NOTE

The rail has to be removed from its tucked position by pulling it outward prior to raise it.



# **WARNING**

Leave the siderails fully up and locked when the patient is unattended. When raising the siderails, be sure that you hear the click that signals the up and locked condition. Pull firmly on the siderail to ensure it is locked into position.

Siderails, with or without their padded covers or nets, are not intended to serve as restraint devices to keep patient from exiting the bed. Siderails are designed to keep a patient from inadvertently rolling off the bed. It is the responsibility of the attending medical personnel to determine the degree of restraint necessary to ensure a patient will remain safely in bed. Failure to utilize the siderails properly could result in serious patient injury.

Keep siderails in the fully raised position and the sleep surface horizontal in its lowest position when the patient is sleeping unless the patient's medical conditions dictates otherwise.

To **raise** a head end siderail, grasp the rail, pull it outward and swing it upward towards the head end of the bed until it latches in the up position.

To **raise** a foot end siderail, the same procedure is required as for the head end siderail, however, the siderail swings to the foot end of the bed.

To **lower** a siderail, lift it up slightly, push in the release lever located under the mattress support (see page 11, "Bed Illustration") and hold siderail as it rotates down to low position. Push the siderail against the mattress support to tuck it away.

# 2.12 HEAD AND FOOT BOARD OPERATION

The head and foot boards slide down into two mounting sockets located at each end of the bed. Both boards can be removed or replaced easily. They may also be mounted permanently (see page 8, "Set-Up Procedures").

# **Removing Boards**

Seize both ends of the board and lift it up until posts come out of the mounting sockets.

# Replacing Boards

- Head board: Insert the board with the laminated finish side facing inside the bed.
- **Foot board:** Insert the board with the laminated finish side facing outside the bed. Be cautious when inserting the foot board to avoid damaging the board and foot end casing connectors.

### NOTE

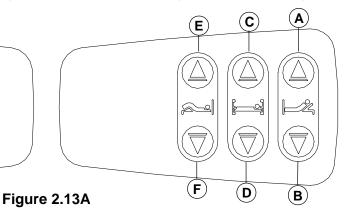
If the foot board must be removed and the bed electric functions remain accessible through the siderails, ensure that the siderail functions are operational by deactivating all three lockout switches in the foot board control panel (see page 17) before removing the foot board.

# 2.13 HEAD SIDERAIL FUNCTION GUIDE

# **Outside Siderail (Patient's Right Rail)**

# A C E B D F Figure

**Outside Siderail (Patient's Left Rail)** 



- A: Press to raise Fowler
- B: Press to lower Fowler
- C: Press to raise sleep surface
- D: Press to lower sleep surface
- E: Press to raise Knee Gatch
- F: Press to lower Knee Gatch

# Inside Siderail (Patient's Right Rail)

# Inside Siderail (Patient's Left Rail)

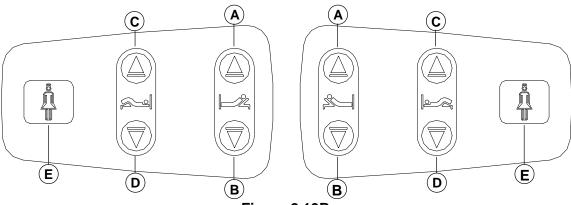


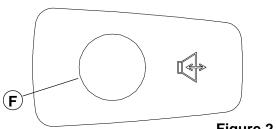
Figure 2.13B

A: Press to raise Fowler

C: Press to raise Knee Gatch

B: Press to lower Fowler

- D: Press to lower Knee Gatch
- **E**: Press to activate the Nurse Call function (optional)



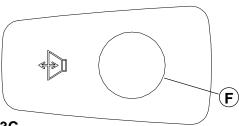


Figure 2.13C

**F:** Nurse call speakerphones (this panel is optional equipment and will be present on the inner side of both head siderails if the bed is equipped with the Nurse Call option, see page 14, "Nurse Call Usage").

# 2.14 FOOT BOARD CONTROL PANEL GUIDE

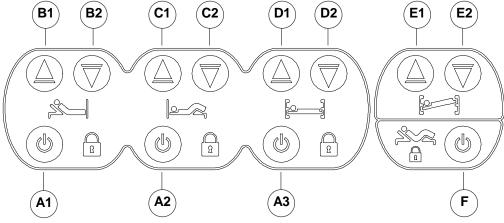


Figure 2.14

- **A1:** Press to lock out Fowler controls at both head siderails. The Fowler padlock icon will come on. Press again to unlock.
- **A2:** Press to lock out Knee Gatch controls at both head siderails. The Knee Gatch padlock icon will come on. Press again to unlock.
- **A3:** Press to lock out the bed height adjustment (Hi-lo) at both head siderails (outer sides). The Hi-lo padlock icon will come on. Press again to unlock.

### NOTE

The foot board controls are not affected by the lockout switches.

Lockout settings are automatically saved in the event of a power failure and restored following resumption of power.

**B1:** Press to raise Fowler

**B2:** Press to lower Fowler

C1: Press to raise Knee Gatch

C2: Press to lower Knee Gatch

**D1:** Press to raise the sleep surface

**D2:** Press to lower the sleep surface

**E1:** Press to obtain the Trendelenburg position (head down, foot up)

**E2:** Press to obtain the reverse Trendelenburg position (head up, foot down)

### NOTE

To replace the sleep surface to horizontal position after a Trendelenburg positioning, simply use the bed height controls to either raise or lower the sleep surface to its limits. Then position the bed to the desired height.

**F:** Contour positioning control. The Contour positioning function is operational by default (padlock icon off). To deactivate it, press on the Contour switch (F) (padlock icon lights up). The Contour and Knee Gatch lockout controls are interrelated, activating one activates the other.

# 2.15 FUNCTION LOCKOUT USAGE

Whenever a patient or visitor should be restricted from operating the siderail controls, activate the appropriate lockout switch (A1, A2, A3, figure 2.16) in the foot board control panel. The lockout switches are for the safety of the patient. Use them when appropriate.

### NOTE

The padlock icon related to the function that is locked will light up.

# 2.16 WEIGH SYSTEM CONTROL PANEL GUIDE (OPTIONAL)

# NOTE

When the bed is switched on, the scale display will show "STRYKER / SCALE V x.x" where x.x is the version of the control software.



# WARNING

The Weigh system is intended to assist in the monitoring of the patient's weight variation. Under no circumstances should its reading be used as sole reference for medical treatment.

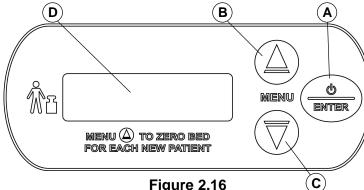


Figure 2.16

# A: U/ENTER key:

- Press the **b** key once to activate the display. The Scale mode will be displayed.
- Press when instructed to press ENTER.

B/C: MENU Up/Down keys:

Press either key repeatedly until desired mode is reached.

**D**: Scale Display.

# **Scale Menu Modes**

Order of appearance of the modes when the MENU Down key is pressed repeatedly:

Mode	Display First Line
Scale	WEIGHT ANGLE
Change Equipment	CHANGE EQUIP.
Change Patient Weight	CHNG PTNT WEIGHT
<b>a</b>	—

Select Weight Unit (lb/kg) **UNITS** 

Scale Zero SCALE ZERO

# Operating (Zeroing) the Scale Before Putting a New Patient on the Bed

Prepare the bed for a patient stay (linens, pillows, etc.) and press the Ukey, the display will read:

Press the MENU Up key to access the Scale Zero mode (as written on the membrane). The display will read:

# SCALE ZERO / PRESS ENTER

Press and hold the ENTER key. The display will read:

HOLD TO ZERO WT. (keep pressing the ENTER key), followed by:

RELEASE TO ZERO (release the ENTER key), followed by:

DO NOT TOUCH BED (be sure nobody touches the bed while this message appears).

The scale system will return to the Scale mode and will display zero for the weight and angle values. The bed is now ready for the patient.

# NOTE

other.

The scale display turns off automatically after one minute of idle time, but the system itself will remains active in the background. Pressing the **U** key will reactivate the display in the Scale mode. On beds equipped with the Weigh and Bed Exit systems, zeroing one system will also zero the

Do not zero the bed while a patient is on the bed. An inaccurate patient weight reading will result. If this should occur, use the Change Patient Weight mode to enter the correct patient weight or remove the patient from the bed and zero the bed again (see above "Operating (Zeroing) the Scale Before Putting a New Patient on the Bed").

# Adding or Removing Equipment when a Patient is on the Bed

### NOTE

Take note of the patient's weight before proceeding with the Change Equipment mode.

The patient's weight should remain the same at the end of the procedure. If it is not the case, access the Change Patient Weight mode using the MENU Up or Down keys and enter manually the previously noted patient weight.

- Press the key to activate the scale display.
- Access the Change Equipment mode using the MENU Down key, the display will read:

# CHANGE EQUIP / PRESS ENTER

- Press and hold the ENTER key. The display will read:
  - RELEASE TO START (release the ENTER key), followed by:
  - DO NOT TOUCH BED (be sure no one touches the bed while this message appears).
- The ADD/REMOVE EQUIP / PRESS ENTER message will then appear, signalling that equipment can now be added or removed from the bed.
   When done, press and hold the ENTER key.
- Display will read RELEASE TO FIN. (release the ENTER key), followed by:
- DO NOT TOUCH BED (ensure the patient stands still as much as possible and no one touches the bed while this message is displayed).
- The scale will return to the Scale mode displaying the patient unchanged weight.

# **Changing Manually the Numerical Value of Displayed Weight**

In certain circumstances, it may be necessary to change manually the displayed patient's weight. To do so:

- Press the key to activate the scale display.
- Access the Change Patient Weight mode using the MENU Down key. The display will read:
   CHNG PTNT WEIGHT / PRESS ENTER
- Press and hold the ENTER key. The display will read:
  - REL. TO CHNG WT. (release the ENTER key), followed by:
  - DO NOT TOUCH BED (be sure no one touches the bed while this message appears).
- The display will then read ▲▼ XXX.X lb / press ENTER. Adjust the weight using the MENU Up/Down keys.
- Once done press the ENTER key.
- The scale will return to the Scale mode and will display the adjusted weight.

The Change Patient Weight mode should not be used systematically for new patients. The scale should be zeroed each time a new patient enters onto the bed (see page 18, "Operating (Zeroing) the..).

# **Changing the Weight Measure Unit**

• Press the **t** key to activate the scale display. Access the Select Weight Unit (lb/kg) mode using the MENU Down key. The display will read:

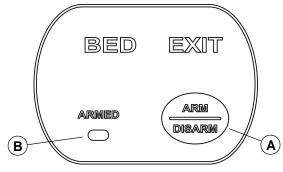
# UNITS / PRESS ENTER

Press the ENTER key. The display will read:

▲▼ Ib AND OR ▲▼ kg AND PRESS ENTER

• Select the weight unit using the MENU Up or Down key and press the ENTER key. The scale will return to the Scale mode with the weight in the unit chosen.

# 2.17 CHAPERONE BED EXIT (OPTIONAL)



**A:** Press to activate/deactivate the Bed Exit function

B: Armed LED

Figure 2.17

### **NOTE**

For the bed exit alarm signal to be heard in the nurse station, the bed must be equipped with the optional nurse call function and be connected to the hospital nurse call system. For beds equipped with the Bed Exit function but not with the Nurse Call option, the alarm signal will be heard only in the patient's room.

Be sure to place the patient on the bed in its normal position before activating the bed exit.



# **WARNING**

The Bed Exit system is intended only to aid in the detection of a patient exiting the bed. It is not intended to replace patient monitoring protocol. The Bed Exit system signals when a patient is about to exit the bed. Adding or removing objects from the bed after having armed the Bed Exit system may cause a reduction in the sensitivity of the Bed Exit system, resulting in erroneous readings of the patient's movements in the bed.

The Bed Exit system is not designed to be used with patients weighing less than 50 lb (23 kg).

### NOTE

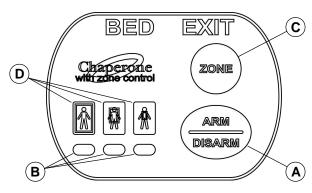
When the bed is equipped with a scale, the scale must be properly zeroed for the Bed Exit to function properly (see page 18, "Operating (Zeroing) the Scale Before Putting a New Patient on the Bed"). If the bed is not equipped with a scale, follow the procedure below:

- Before putting a new patient on the bed: prepare the bed for a patient stay by adding linens and equipment to the bed.
- Press and hold the ARM/DISARM key (A) until the ARMED LED (B) begins to flash (do not touch the bed while the LED flashes), then release the key. When the ARMED LED turns off, the system is zeroed.

To activate the Bed Exit, press the ARM/DISARM key (A). The ARMED LED (B) will come on.

To **deactivate** the Bed Exit after an alarm or simply to turn it off, press the ARM/DISARM key (A). The Armed LED (B) will turn off.

# 2.18 CHAPERONE BED EXIT WITH ZONE CONTROL (OPTIONAL)



**A:** Press to activate/deactivate the Bed Exit function

B: Zone LED's

C: Press to select zone

**D:** Zone icons (zone from left to right: less restrictive to most restrictive, see below)

Figure 2.18

### NOTE

For the bed exit alarm signal to be heard in the nurse station, the bed must be equipped with the optional nurse call function and be connected to the hospital nurse call system. For beds equipped with the Bed Exit function but not with the Nurse Call option, the alarm signal will be heard only in the patient's room.

Be sure to place the patient on the bed in its normal position before activating the bed exit.



### WARNING

The Bed Exit system is intended only to aid in the detection of a patient exiting the bed. It is not intended to replace patient monitoring protocol. The Bed Exit system signals when a patient is about to exit the bed. Adding or removing objects from the bed after having armed the Bed Exit system may cause a reduction in the sensitivity of the Bed Exit system, resulting in erroneous readings of the patient's movements in the bed. Failure to set the Chaperone zone properly could result in improper monitoring and patient injury. Verify that the proper zone is selected before leaving the patient.

The Bed Exit system is not designed to be used with patients weighing less than 50 lb (23 kg).

# Zone Settings

- The first zone (left LED) is the traditional Bed Exit zone. The patient can move in the bed freely but cannot fully exit the bed or the alarm will sound.
- The second zone (middle LED) is more restrictive. It allows the patient to sit up and roll over but any attempt to exit the bed will cause the alarm to sound.
- The third zone (right LED) is the most restrictive zone. Small movements like raising an arm or lifting the shoulder off the bed will cause the alarm to sound. The third zone is used to alert staff to a change in the condition of an unconscious or paralyzed patient.

### NOTE

When the bed is equipped with a scale, the scale must be properly zeroed for the Bed Exit to function properly (see page 18, "Operating (Zeroing) the Scale Before Putting a New Patient on the Bed"). If the bed is not equipped with a scale system, follow the procedure below:

- Before putting a new patient on the bed: prepare the bed for a patient stay by adding linens and equipment to the bed.
- Press and hold the ARM/DISARM key (A) until the larger zone LED (B) begins to flash (do not touch the bed while the LED flashes), then release the key. When the zone LED turns off, the system is zeroed.

To **activate** the Bed Exit, press the ARM/DISARM key (A). The less restrictive zone (B) will be automatically selected and its LED will come on. To change the zone, press the ZONE key (C) repeatedly until the desired zone LED comes on.

To **deactivate** the Bed Exit after an alarm or simply to turn it off, press the ARM/DISARM key (A). The zone LED (B) will turn off.

# 3. ACCESSORIES

Listed below are all the accessories that may be attached to the BED\* as well as their maximum load capacity where applicable.

- Two function pendant control with hook (Product & Design)
- Three function pendant control with hook (Product & Design)
- Three function pendant control (Neeco-Tron Inc)
- Upright oxygen bottle holder (Maximum load: 75 lb 34 kg)
- Defibrillator tray (Maximum load: 40 lb 18 kg)
- Sheet cradle
- Overhead trapeze system (Maximum load: 150 lb -68 kg)
- 1" Ø removable anodized aluminium IV pole
- 1" Ø fixed anodized aluminium IV pole
- 1/2" Ø removable anodized aluminium IV pole
- Emergency crank
- Padded siderail covers (set of two head only)
- Padded siderail covers (set of four)